U.S. DEPARTMENT OF THE NAVY ENERGY SECURITY

NAVY ENERGY
AND THE ROLE OF BIOFUELS

The Navy's Energy Vision is a Navy that values energy as a strategic resource; a Navy that understands how energy security is fundamental to executing our mission afloat and ashore; and a Navy that is resilient to any potential energy future.

THE NAVY VIEWS ENERGY AS…

- An integral element of every weapons system and every tactical vehicle, aircraft, or ship.
- A resource that must be conserved efficiently so that we can extend our range, reduce our fuel tether, making us more agile and more combat capable.
- A critical combat component that must not be reliant upon one type of fuel that leaves us vulnerable to either price shocks or availability shortages.

NAVAL ENERGY SECURITY

To better enable combat capability, we must…

- Pursue initiatives that increase efficiency to 'lighten our load' and expand our tactical reach.
- Protect our critical infrastructure.
- Pursue sustainable resources (such as biofuel), thereby assuring mobility in perpetuity while also greening our footprint.
- Reduce our dependency on petroleum.

SECRETARY OF THE NAVY'S FIVE ENERGY GOALS

We will…

- Increase alternative energy sources afloat. By 2020, the Department of Navy aims to obtain 50% of the Fleet's liquid fuel from alternative sources.
- Increase alternative energy sources ashore. By 2020, the Department of the Navy aims to produce at least 50% ashore-based energy requirements from alternative sources and plans that 50% of DON installations will be net-zero with regards to energy usage.
- Demonstrate a Green Strike Group in local operations by 2012 and deploy a "Great Green Fleet" in 2016.
- Reduce non-tactical commercial fleet petroleum use by 50% by 2015.
- Require energy efficient acquisition in which the evaluation of energy factors will be mandatory when awarding systems and building contracts.

ENERGY & PETROLEUM FACTS

- The U.S. produces 10% of the world's petroleum.
- With only 5% of the world's population, the U.S. consumes about 23% of the world's petroleum supply.
- About 60% of the petroleum used in the U.S. comes from overseas; almost half of that comes from OPEC member countries.
- The Navy uses 75% of its energy afloat and the vast majority of that relies upon liquid petroleum.

"Simply put, we as a military rely too much on fossil fuels. That dependence creates strategic, operational and tactical vulnerabilities for our forces and makes them susceptible to price and supply shocks caused by either man-made or natural disasters in the volatile areas of the world where most fossil fuels are produced."

—Honorable Ray Mabus, Secretary of the Navy

MILITARY BENEFITS OF ALTERNATIVE FUEL

To fulfill its mission of training, maintaining, and equipping combat-ready forces capable of winning wars, deterring aggression, and maintaining freedom of the sea, the Navy needs a secure energy source.

- We are assuring mobility in perpetuity by promoting a diversified, sustainable energy supply so we can be free from price volatility of, or lack of assured access to, oil.
- We are promoting advanced generation biofuels to serve as 'drop-in' replacements that can be used in existing engines without imposing unnecessary costs to modify our entire fleet of ships, aircraft, or tactical vehicles. Such 'drop-in' replacements afford seamless transition, whenever needed, between petroleum and biofuel.
- We are fostering partnerships with industry and other government agencies to promote development of advanced generation biofuels so that their pricing is competitive with petroleum-based fuels.

ECONOMIC BENEFITS OF ALTERNATIVE FUEL

Job creation & Sustainability Benefits

- Creation of a domestic biofuel market will create jobs and economic opportunity. Alternative fuels produced in the United States provide American jobs, especially in rural communities where farmers can plant crops that do not compete with food stock, do not use a significant amount of water, and are grown on marginal lands.
- Domestically produced biofuels keep the dollar in the United States. Less money that goes overseas means more dollars are reinvested in the U.S. The U.S. Navy, along with the Department of Energy, U.S. Department of Agriculture, and industry are striving to provide economic opportunity via investment in biofuel plants and refineries.
- A robust biofuel market that supplies both the military and the commercial sector will develop a new industry that could spur tremendous economic opportunities. For example, Navy estimates that approximately 50% of its fuel demand could be domestically produced via alternative fuel.

ENVIRONMENTAL BENEFITS OF ALTERNATIVE FUELS

Reduced emissions and carbon footprint. The Navy is dedicated to partnering with industry to produce alternative fuel that burn cleaner.

- The Navy adheres to Energy Security Independence and Security Act of 2007, Section 526 that requires alternative fuel to have less than or equal greenhouse gas emissions from the equivalent conventional fuel produced from conventional petroleum sources.
- Such alternatives to petroleum-based fuel provide a substitutable energy source that minimally impacts the environment in either the short or long term.
- Industry estimates that "Algae-based fuels result in up to 85% less greenhouse gas emission than fossil."
- 2nd/3rd generation biofuels significantly reduce nitrogen and sulfur byproduct emission.

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